

I claim:

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1. A portable electronic voice recognition device capable of executing various voice activated commands and calculations associated with aircraft operation by means of
5 synthesized voice response, said portable electronic voice recognition device comprising:
 - an integrated circuit capable of voice recognition and speech synthesis, said integrated circuit further comprising at least a pre-amplifier, an analog to digital converter, a digital to analog converter, an analog controller, a pulse width modulator, an oscillator's, a central processing unit, an external memory interface, a speech processing
10 unit, a timer, an internal random access memory, and a data storage, said data storage capable of storing and being uploaded with different software programs;
 - a set of input jacks capable of connecting to a microphone, said set of input jacks connecting to said integrated circuit;
 - a set of output plug capable of connecting to an aircraft's communication system,
15 said set of output plugs connecting to said integrated circuit;
 - an I/O or communication port capable of connecting to a computer, said I/O or communication port connecting to said integrated circuit;
 - and a housing, said housing having said integrated circuit, said set of input jacks, said set of output plugs and said I/O or communication port disposed therein.
 - 20 2. The portable electronic voice recognition device in claim 1 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft's communications.

3. The portable electronic voice recognition device in claim 1 is operable only when said set of input jacks are connected to a voice inputting device, said voice inputting device being headphone or microphone.

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4. The portable electronic voice recognition device in claim 1 is capable of being activated by an input voice prompt.

5. The portable electronic voice recognition device in claim 1 is capable of providing a pre-programmed output synthesized voice prompt in responding to an input voice prompt, said pre-programmed output synthesized voice prompt being a single output synthesized voice prompt or a series of output synthesized voice prompts, said pre-programmed output synthesized voice prompt being different for different aircrafts.

10 15 6. The portable electronic voice recognition device in claim 1 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt.

7. The portable electronic voice recognition device in claim 1 is capable of operating either being connected to or disconnected from said aircraft's communication system.

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8. The portable electronic voice recognition device in claim 1 is capable of functioning as an E6-B flight computer, said E6-B flight computer capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time,

distance flown, weight and balance, pressure density altitude, cross wind component and miscellaneous conversions based on various input voice prompts and responding with various output synthesized voice prompts.

5 9. The portable electronic voice recognition device in claim 1, wherein said integrated circuit is capable of continuous listening and word spotting.

10. The portable electronic voice recognition device in claim 1, wherein said integrated circuit can be either speaker dependent or speaker independent.

11. The portable electronic voice recognition device in claim 1 is powered by battery.

12. A portable electronic voice recognition device capable of executing various voice activated commands and calculations associated with aircraft operation by means of
15 synthesized voice prompts, said portable electronic voice recognition device comprising:

a set of input jacks capable of connecting to a microphone;

a set of output plugs capable of connecting to an aircraft's communication system;

an I/O or communication port capable of connecting to a computer;

an integrated circuit capable of voice recognition and speech synthesis;

20 and a housing, said housing having said input jack, said output plug, said I/O or communication port and said integrated circuit disposed therein.

13. The portable electronic voice recognition device in claim 12, wherein said integrated circuit further comprises at least a pre-amplifier, an analog to digital converter, a digital to analog converter, an analog controller, a pulse width modulator, an oscillator's, a central processing unit, an external memory interface, a speech processing unit, a timer, an internal random access memory, and a data storage, said data storage capable of storing various databases and software programs.

14. The portable electronic voice recognition device in claim 12 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft communications.

15. The portable electronic voice recognition device in claim 12 is capable of accepting an input voice prompt and responding with an output synthesized voice prompt when said set of input jacks are connected to a voice inputting device, said voice inputting device being headphone or microphone.

16. The portable electronic voice recognition device in claim 12 is capable of providing a series of pre-programmed output synthesized voice prompts in responding to an input voice prompt, said pre-programmed output synthesized voice prompts being different for different aircrafts.

17. The portable electronic voice recognition device in claim 12 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt.

18. The portable electronic voice recognition device in claim 12, wherein said data storage is capable of being uploaded with different databases and software programs through said I/O or communication port.

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19. The portable electronic voice recognition device in claim 12 is capable of functioning as a regular flight computer, said flight computer being capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time, distance flown, weight and balance, pressure density altitude, cross wind component and 10 miscellaneous conversions based on various input voice prompt inputs and responding with various output synthesized prompt outputs.

20. The portable electronic voice recognition device in claim 12, wherein said integrated circuit is capable of continuous listening and word spotting.

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21. A portable electronic voice recognition device capable of executing various voice activated commands and calculations associated with aircraft operation by means of synthesized voice response, said portable electronic voice recognition device comprising:
an integrated circuit capable of voice recognition and speech synthesis;
20 an input interface device connecting to said integrated circuit;
an output interface device connecting to said integrated circuit;
a data transfer interface connecting to said integrated circuit; and

a housing, said housing having said integrated circuit, said input interface device, said output interface device and said data transfer interface disposed therein.

22. The portable electronic voice recognition device in claim 21, wherein said
5 integrated circuit further comprising at least a pre-amplifier, an analog to digital converter, a digital to analog converter, an analog controller, a pulse width modulator, an oscillator's, a central processing unit, an external memory interface, a speech processing unit, a timer, an internal random access memory, and a data storage, said data storage capable of storing and being uploaded with different databases and software programs
10 through said I/O or communication port by said computer.

23. The portable electronic voice recognition device in claim 21 is capable of
integrated into said aircraft's communication system without interfering with regular
operation of aircraft communications.
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24. The portable electronic voice recognition device in claim 21 is operable only
when said input interface device is connected to a voice inputting device.

25. The portable electronic voice recognition device in claim 21 is capable of being
20 activated by a pre-programmed signal.

26. The portable electronic voice recognition device in claim 21 is capable of
providing a pre-programmed output synthesized voice prompt in responding to an input

voice prompt, said pre-programmed output synthesized voice prompt being different for different aircrafts.

27. The portable electronic voice recognition device in claim 21 waits for an input
5 voice prompt before providing next pre-programmed output synthesized voice prompt.

28. The portable electronic voice recognition device in claim 21 is capable of operating either being connected to or disconnected from said aircraft's communication system.

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29. The portable electronic voice recognition device in claim 21 is capable of functioning as a flight computer.

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30. The portable electronic voice recognition device in claim 21, wherein said integrated circuit is capable of continuous listening and word spotting.

31. A portable electronic voice recognition device capable of executing various voice activated commands and calculations associated with aircraft operation by means of synthesized voice response, said portable electronic voice recognition device comprising:
20 an integrated circuit capable of voice recognition and speech synthesis;
an input interface device connecting to said integrated circuit;
an output interface device connecting to said integrated circuit;
a data transfer interface connecting to said integrated circuit; and

a housing, said housing having said integrated circuit, said input interface device, said output interface device and said data transfer interface disposed therein.

32. The portable electronic voice recognition device in claim 31, wherein said
5 integrated circuit further comprising at least a pre-amplifier, an analog to digital converter, a digital to analog converter, an analog controller, a pulse width modulator, an oscillator's, a central processing unit, an external memory interface, a speech processing unit, a timer, an internal random access memory, and a data storage, said data storage capable of storing and being uploaded with different databases and software programs
10 through said serial port by said computer.

33. The portable electronic voice recognition device in claim 32, wherein said integrated circuit is capable of continuous listening and word spotting.

15 34. The portable electronic voice recognition device in claim 33 is operable only when said input interface device is connected to a voice inputting device.

20 35. The portable electronic voice recognition device in claim 34 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft communications.

36. The portable electronic voice recognition device in claim 35 is capable of being activated by a pre-programmed signal.

37. The portable electronic voice recognition device in claim 36 is capable of providing a pre-programmed output synthesized voice prompt in responding to an input voice prompt, said pre-programmed output synthesized voice prompt being different for
5 different aircrafts.

38. The portable electronic voice recognition device in claim 37 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt.

10 39. The portable electronic voice recognition device in claim 38 is capable of functioning as a flight computer.